

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**



| DOCUMENTS CONSIDERED TO BE RELEVANT | | | EP 89302565.0 |
|--|--|--|--|
| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (Int. Cl. ⁴) |
| A | <u>DE - A - 2 055 800</u> (GIOIA) * Page 2, lines 13-25; page 3, lines 1-6; page 5, lines 15-22; fig. 5 * --- | 1, 3, 7 | F 16 B 12/00 A 47 B 47/00 |
| A | <u>DE - A1 - 2 826 336</u> (ANONIMA CASTELLI S.P.A.) * Page 9, lines 2-16; fig. 2, 3 * --- | 1, 3, 6, 7 | |
| A | <u>DE - A1 - 3 614 490</u> (KÜPFNER INNENAUSBAU GMBH) * Abstract; fig. 1, 2, 3 * --- | 1, 7 | |
| A | <u>GB - A - 2 156 206</u> (STANDARD TELEPHONES AND CABLES PUBLIC LIMITED COMPANY) * Fig. 2 * ----- | 1, 2 | |
| | | | TECHNICAL FIELDS SEARCHED (Int. Cl. ⁴) A 47 B A 47 F F 16 B |
| The present search report has been drawn up for all claims | | | |
| Place of search VIENNA | | Date of completion of the search 14-06-1989 | Examiner RIEMANN |
| CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document | | | |

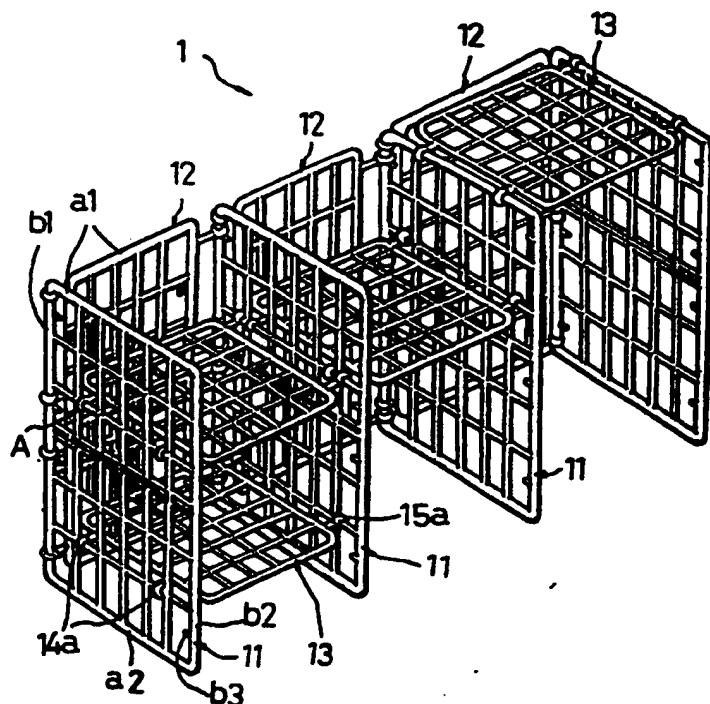


INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

| | | |
|---|-----------|---|
| (51) International Patent Classification ⁵ : A47B 45/00, A47F 5/13 | A1 | (11) International Publication Number: WO 93/19641 (43) International Publication Date: 14 October 1993 (14.10.93) |
| <p>(21) International Application Number: PCT/KR93/00024</p> <p>(22) International Filing Date: 1 April 1993 (01.04.93)</p> <p>(30) Priority data: 1992/5630 1 April 1992 (01.04.92) KR</p> <p>(71)(72) Applicant and Inventor: SHIN, O, Seop [KR/KR]; 276-6, Sano-dong, Kuri-si, Kyung Gi-do 471-050 (KR).</p> <p>(81) Designated States: JP, US, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).</p> <p>Published <i>With international search report.</i></p> | | |

(54) Title: INSTANT FURNITURE FOR HOUSEHOLD EFFECTS**(57) Abstract**

An instant furniture comprised assembling arrangements by only three plastic panel units which are a side panel unit (11) and a back panel unit (12) and a shelf unit (13), the back panel unit (12) of rectangular feature formed by an upper frame (a1) and bottom frame (a2) and two side frames (b1, b2) respectively having a number of hooking snap-hooks (14a, 15a) to joint or disjoint with side panel unit (11), and the side panel unit of rectangular feature also formed by each frame (a1, a2) and by two side frames (b1, b2) respectively having a number of stopping projections (b3) on the inner part of the side frames (b1, b2) to hang or to stop said hooking snap-hooks (14a, 15a), and the shelf panel unit of the square feature also formed by each frame (a1, a2) and by side frame (b1) having a narrow snap-hook (14a) and by side frame (b2) having a wide snap-hook (15a), and all panel units (11, 12, 13) respectively having check frame (c).



FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

| | | | | | |
|----|--------------------------|----|---------------------------------------|----|--------------------------|
| AT | Austria | FR | France | MR | Mauritania |
| AU | Australia | GA | Gabon | MW | Malawi |
| BB | Barbados | GB | United Kingdom | NL | Netherlands |
| BE | Belgium | GN | Guinea | NO | Norway |
| BF | Burkina Faso | GR | Greece | NZ | New Zealand |
| BG | Bulgaria | HU | Hungary | PL | Poland |
| BJ | Benin | IE | Ireland | PT | Portugal |
| BR | Brazil | IT | Italy | RO | Romania |
| CA | Canada | JP | Japan | RU | Russian Federation |
| CF | Central African Republic | KP | Democratic People's Republic of Korea | SD | Sudan |
| CG | Congo | KR | Republic of Korea | SE | Sweden |
| CH | Switzerland | KZ | Kazakhstan | SK | Slovak Republic |
| CI | Côte d'Ivoire | LJ | Liechtenstein | SN | Senegal |
| CM | Cameroon | LK | Sri Lanka | SU | Soviet Union |
| CS | Czechoslovakia | LU | Luxembourg | TD | Chad |
| CZ | Czech Republic | MC | Monaco | TG | Togo |
| DE | Germany | MG | Madagascar | UA | Ukraine |
| DK | Denmark | ML | Mali | US | United States of America |
| ES | Spain | MN | Mongolia | VN | Viet Nam |
| FI | Finland | | | | |

Instant furniture for household effects

Technical Field

This invention relates to an instant furniture which is like racks or shelves of the type which includes vertical frame members or supports, longitudinally extending horizontal frame members or beams interconnecting adjacent supports and cross members extending between laterally opposite vertical members, and more particularly to an instant furniture to be made from only three panel elements are respectively different figures as a check frame types.

Background Art

Household effects are very various things which are like a furniture, an equipment for food, an instruments of leisure, ..., household goods, ...etc.,

The furniture also is very various things which are like a using bedroom and kitchen and bathroom,etc.,

And some of household articles are particularly convenient are like a utility racks and shelves which are suitable and keeping for use in interior of house.

Occasionally the racks and the shelves use in areas where shelving accommodates easy storage and keeping use of items found in the home. While some shelves of this type may be hung from a wall, others are adapted to be free-standing, and may be placed in cabinets, pantries, vanities, or the like.

One desirable feature for free-standing shelf units is the capability of of the shelf unit being stackable and supported upon a like shelf unit.

In this way, a user may conveniently select the number of shelf units desired for use in a particular location, and readily stack the units so that, in essence, a multiplied shelf arrangement is provided.

This feature of shelf arrangements permits a user to "customize" the shelving units to their individual needs, with addition to or reduction of the number of shelf units being easily accomplished whenever desired.

Such things is disclosed with The United States of America's patent No. 4, 444,320; No. 4,450,971 and Japan's Official Gazette utility model, published No. pyung 1-89038, pyung 1-151732, Pyung 2-52624, So 63-120935, ...etc.

But, they are not desirable owing to this following's problem.

First, they lack selectively capacity to be stored in variable household

SUBSTITUTE SHEET

articles which are respectively different to great and small size, or in the high and the low, at a time.

Second, they are not adapted to be carried by user of himself because they are not potable type for alone.

5 third, they are difficult to be assembled with an accomplished arrangements
from numerous their frame elements which are relatively heavy and big with a large
number of joint portions and joint parts.

Firth, they does not provide that a user may freely make a furniture of optional figure which can be selectively extended to all direction.

10 Disclosure of the present Invention

An instant furniture of the present invention includes only three panel units of plastic materials to be made for a furniture by their interconnecting assembly.

Three panel units are a side panel unit and a back panel unit and a shelf panel unit, and they each have upper frame portions and bottom frame portions and two side frame portions.

The back panel unit has some snap-hook portions to interconnect two side panel units and the shelf panel unit has some snap-hook portions as a them of the back panel unit.

20 In accordance with the present invention, an instant furniture can be assembled which has scarcely two side panel unit and one back panel unit, one shelf panel unit with some snap-hook portions of the back panel unit or the shelf panel unit.

It is an object of the present invention to make furniture instantly assembling and disassembling by one manual ONE-TOUCH action regardless of any auxiliary parts and instrument and equipment.

25 It is another object of the present invention to ensure resistivity of furniture to substantial loads and various accidental shocks and impacts and thereby enhance the reliability in use.

It is another object of the present invention to minimize the time and labor for assembling and disassembling a instant furniture.

30 It is another object of the present invention to be assembled with a light weight and to be compacted with instant furniture which can be conveniently carried to any desired place as a portable type.

It is another object of the present invention to permit a user to "customize" the instant furniture to their individual needs, with addition to or reduction of the number of other panel units being easily accomplished whenever desired regardless of

a limit for great and small size of stored articles.

It is another object of the present invention to provide an easiness for assembling and disassembling the object's furniture which can be made by One-Touch method.

5 Other objects, together with the foregoing, are attained in the embodiments described in the following description and illustrated in the accompanying drawings and features.

Brief Description of Drawings

Fig.1 is a perspective view of an example of the present invention;
10 Fig.2 is a elevation partly in section of main portion of an other example of the present invention;
Fig.3 is a fragmentary enlarged view of a part A of the present invention shown in Fig.1;
Fig.4a is a elevation view of a side panel unit of the present invention
15 Fig.4b is a cross sectional view taken on the line B-B of Fig.4a;
Fig.5 is a elevation view of a back panel unit of the present invention;
Fig.6a is a elevation view of a shelf panel unit of the present invention;
Fig.6b is a cross sectional view taken on the line D-D of Fig.6a;
20 Fig.7a is an enlarged fragmentary view of the outer frame rod portion of the panel units;
Fig.7b is an enlarged fragmentary view of the inner frame rod portion of the panel units;
Figure.8a and 8i are perspective view of a various using example of the present invention;

25 Best Mode for Carrying out the Invention

Referring now the drawings, there is illustrated an example of instant furniture 1. preferably, materials of this description consist of plastic having a elasticity and having having a various size which is formed to the desired configuration.

30 As shown Fig.1, an instant furniture 1 includes a side panel unit 11 and a back panel unit 12 and a shelf panel unit 13.

Each panel units 11,12 have a generally rectangular shaped configuration which length of the side frame 11a is larger than the upper frame portion 11b and the

bottom frame 11c, and a shelf panel unit 13 is like the square shaped configuration and these panel units 11,12,13 each have upper frame a1 and bottom frame a2 and two side frame b1,b2.

5 Back panel unit 12 and shelf panel unit 13 have a number of hooking snap-hooks 14a,15a on two side frames b1,b2 with the connecting rod e membered on outly direction from two side frames b1,b2.

Each panel units 11,12,13 also have check type inner frame (hereinafter, it is described in check frame) c membered by frame portions c1,c2,c3 between the upper frame a1 and the bottom frame a2 and two the side frames b1,b2.

10 The side panel unit 11 respectively have a number of stopping projections b3 to stop or to hang a number of hooking snap-hooks 14a,15a when the hooking snap-hooks 14a,15a of the back panel unit 12 and shelf panel unit 13 interconnects side frames b1,b2 of the side panel unit 11 on inner wall of side frame b1,b2.

15 These projections a3 each are positioned at four location having constantly aparted width each other on one side frame b1 or b2.

Referring to Fig.5 of drawings, the back panel unit 12 have a number hooking snap-hooks 14a,15a onto the outer wall of side frames b1,b2. said hooking snap-hooks 14a,15a have a opening portions g and are membered with side frames a1,a2 by connecting rods e on the part of the side frames b1,b2.

20 Said hooking snap-hooks 14a,15a respectively also are formed by a pair of hooking snap-hook portions, and a width of a pair of hooking snap-hooks(narrow snap-hook)14a is narrow, but a width of a pair of hooking snap-hook(wide snap-hook)15a is longer length than narrow snap-hook 14a.

25 Narrow and wide hooking snap-hooks 14a,15a on the part of side frame a1 is diagonally corresponding to narrow and wide hooking snap-hooks 14a,15a on the part of the side frame b2, and side panel unit 11 also have a central frame c3 to hang or to hook a number of hooking snap-hooks 14a,15a and to reinforce the supporting force of side panel unit 11 in itself.

30 The back panel unit 12 also have a number of hanger portions d to hang an maked instant furniture on the wall.

Referring to Fig.6 of drawings, the shelf panel unit 13 have a narrow snap-hook 14a and wide snap-hook 15a, they respectively are opposited on the part the side frame b1,b2 with one another.

35 Referring to Fig.7a and Fig.7b of drawings, each frame a1,a2,b1,b2 may be have a cross section of the circle feature in Fig.7b. but each check frame c have a cross section of the oval feature,and the diameter y of check frame portions is

smaller than the length x of the side frame portions.

But, Said diameter of a circle feature is preferably same the major axial length of thereof oval feature to give a light weight and to take a consideration of esthic sence for showing things.

5 Each panel unit 11,12,13 respectively also may be have other color giving a colorful for accomplished objects with one another.

Giving an explanation of the effect of the present invention constituted in such a manner, it is follows.

10 To use the present invention, user prepares respectively sevral side panel unit 11 and back panel unit 12 and shelf panel unit 13 for desiring instant furniture to give easily assembly or disassembly to an accomplishing objects.

For example,if it is the same in Fig.1. user must be prepared by four side panel unit 11 and three back panel unit 12 and four shelf unit 13.

15 Then user put two side panel unit 11 and one back panel unit 12 on the floor, and user fit together side frame b1,b2 of the side panel unit 11 and the hooking snap-hooks 14a,15a of the part of the back panel unit 12, and user push down respectively hooking snap-hooks 14a,15a on the side frame b1,b2.

20 When the hooking snap-hooks 14a,15a push down the upper of the side frame b1, b2, the hooking snap-hooks 14a,15a respectively joint to side frame a1,a2 owing to the plastic elasticity of the hooking snap-hooks 14a,15a with enlarged opening portions g such as a socall ONE-TOUCH joint means.

25 On the other hand, user assemble two side panel unit 11 and one back panel unit 12,and it makes thereby assembling member of the u- shaped feature by turning respectively two side panel unit 11 to right angular direction on where the stopping projections b3 is placed.

Then user set up the assembled member, and user install one shelf panel unit 13 between two side panel unit 11 setting up vertically direction with using any check frame c portions of respectively two side panel unit 11.

30 In this way, user continually installs another back panel unit 12 and another side panel unit 11 and another shelf unit 13 in individual needs.

Referring to Fig.2 of drawings, it shows an example feature extended to vertical direction by four shelf panel units 13 and two side panel units 11 and one back panel units 12.

35 Following said above ways, user can be takes a large storable or keeping space to vertical direction and/or to horizontal direction in regardness of any limit and auxilary equipments for assembly of it.

Referring to Fig.3 of drawings, when the diameter of each frame a1,a2,b1,b2 are same cross sectional length of the main axial length of the check frame c, but the minor axial length y of the check frame c are smaller length than the length x of them of each frame a1,a2,b1,b2 in Fig.7a and Fig.7b.

5 It may be takes scarcely same settlement's effects for joining each frame a1,a2,b1,b2 and a number of hooking snap-books 14a,15a with each other owing to equivalent cross sectional length to major axial diameter, though minor axial portion of the check frame c is smaller than the diameter of each frames a1,a2,b1,b2.

10 Besides, when a cross sectional length of each frames a1,a2,b1,b2 is larger than the minor axial portion of check frame c, each panel unit 11,12,13 preferably can be showed to a steadiness and stabilization or such a states being balance.

Industrial Application

For another examples, Fig.8a shows an instant furniture keeping an apparels in the home.

15 Fig.8b shows another example of instant furniture keeping a shoes as a shoes showing and displaying equipments.

Fig.8c shows another example of instant furniture keeping a various articles for home use as a toy and a doll for babies,infantes or as a wicker basket for miscellaneous articles of household.

20 Fig.8d shows another example of instant furniture keeping a various necessities for hanging on the wall,as a pictures and displaying plates,,,etc.

Fig.8e shows another example of instant furniture keeping infant's needs as a milk bottles,as a diapers in the infant's room and the baby's room.

25 Fig.8f shows an another example of instant furniture keeping a kitchen's articles and a bathroom's articles, and other areas where it accommodates easy storage and keeping and use of items found in the home.

Fig.8h shows an another example of instant furniture keeping a book stand.

Fig.8i shows an another example of instant furniture keeping an exclusive display equipments for baby's toy.

30 As described hereinabove, the present invention is able to provide an easiness for using them and a convenience in its maintenance,management,handling,, etc, And more particulaly it permits a user to "costomize" instant furniture to user's individual needs for extending of a keeping space and a various figures.

What is claimed is:

1. An instant furniture for household effects comprising:

a plastic side panel unit 11 of the rectangular figure formed by upper frame a1 and bottom frame a2 and two side frames b1,b2 having a number of stopping projections b3 onto inner wall of respectively two side frames b1,b2 to hang a number of hooking snap-hooks 14a,15a on the part of back panel unit 12 selectively and check frame c of the checker figures between these frame a1,a2,b1,b2 membered;

a plastic back panel unit 12 of the rectangular figure formed by upper frame b1 and bottom frame b2 and two side frames a1,a2 having a number of hooking snap-hooks 14a,15a onto outer wall of respectively two side panel frames a1,a2 to joint and to disjoint said side panel unit 11 with connecting rods e by means of plastic elasticity as a ONE-TOUCH type and said check frame c;

a plastic shelf panel unit 13 of the square figure formed by said upper frame a1 and bottom frame a2 and two side frames b1,b2 having a pair of narrow hooking snap-hooks 14a and wide hooking snap-hooks 15a which opposites each other on the part of said side frames b1,b2 with respectively connecting rod e;

2. An instant furniture as recited in claim 1 further comprises:

said panel units 11,12,13 respectively having an other color to display a various formed assembling member having a various color.

3. An instant furniture as recited in claim 1 further comprises:

a hooking snap-hooks 14a,15a on the part of side panel units 11 formed by the width of a pair of hooking snap-hooks 14a(narrow snap-hook 14a) which they are closer than the width of a pair of hooking snap-hooks 15a(wide snap-hook 15a) and formed by these hooking snap-hooks 14a,15a arranged not only on the part of one side frame b1 but also on the part of another side frame b2,and formed by said narrow snap-hook 14a and wide snap-hook 15a on the part of side frame b1 arranged diagonally narrow snap-hook 14a and wide snap-hook 15a on the part of side frame b2 to be not overlapped with when they meet at the same side frame portions.

4. An instant furniture as resited claim 1 further comprises:

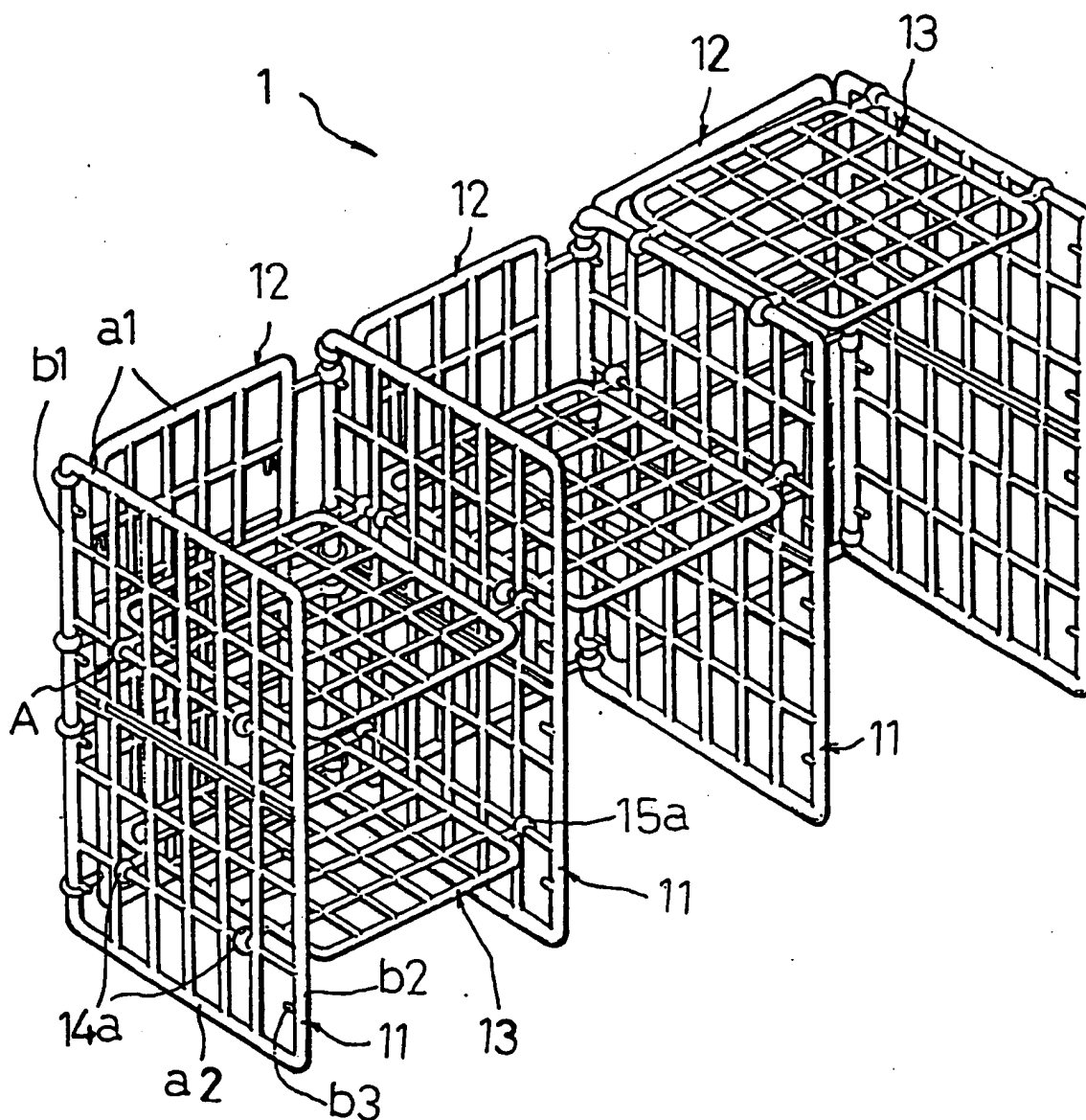
the hooking snap-hooks 14a,15a respectively having a opening portion g to joint or to disjoint with any side frame portions by manual pushing power.

5. An instant furniture as resited claim 1 further comprises:

the cross sectional diameter of rod portions on the part of said frames a1,a2,b1,b2 formed by equivalent length of the cross section of major axial length of check frame portions as oval feature, but formed by greater length than the minor axial length of the check frame portions to give a decrease of quantity of a materials.

1/5

Fig. 1



SUBSTITUTE SHEET

2/5

Fig. 2

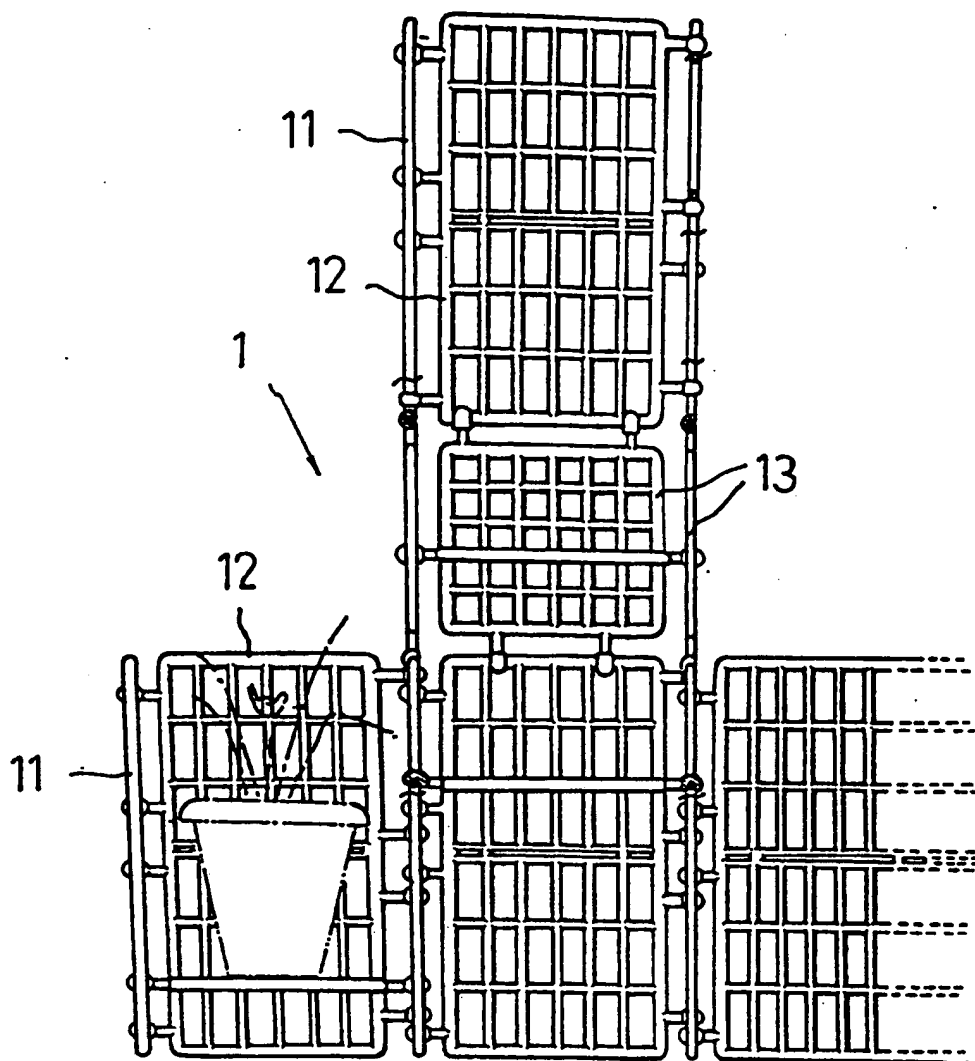
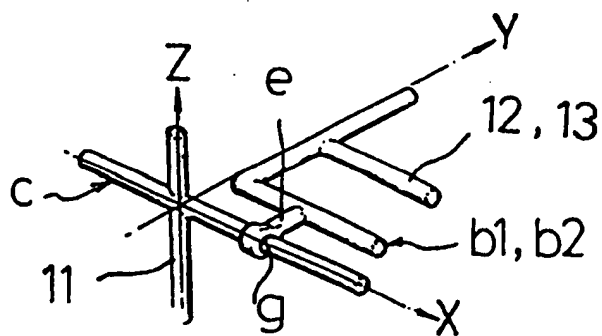


Fig. 3



3/5

Fig. 4a

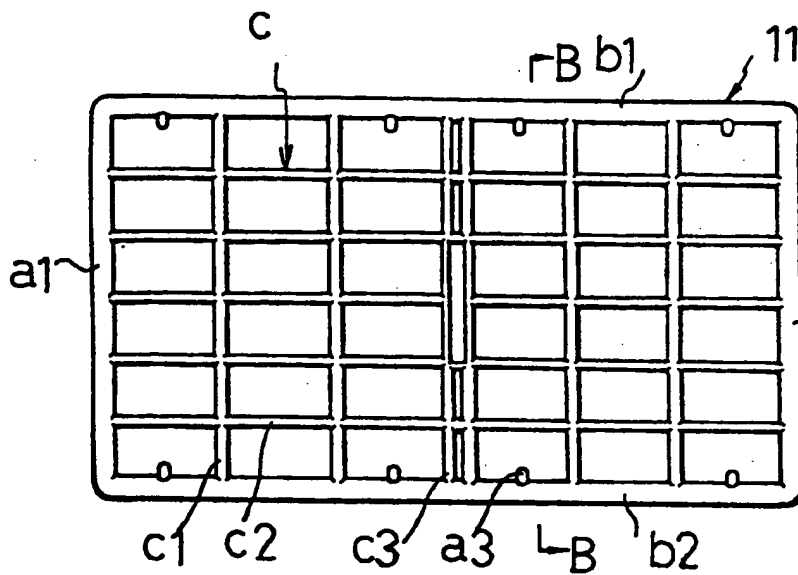


Fig. 4b

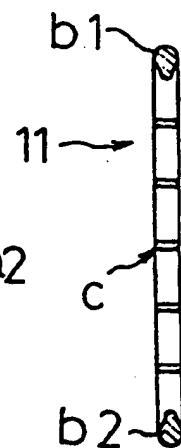
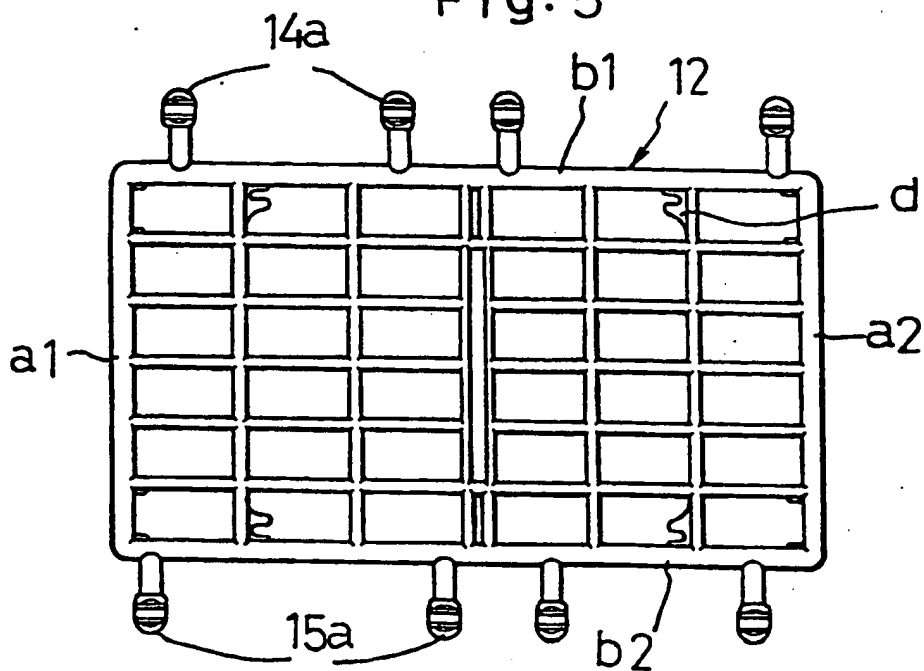


Fig. 5



4/5

Fig.6a

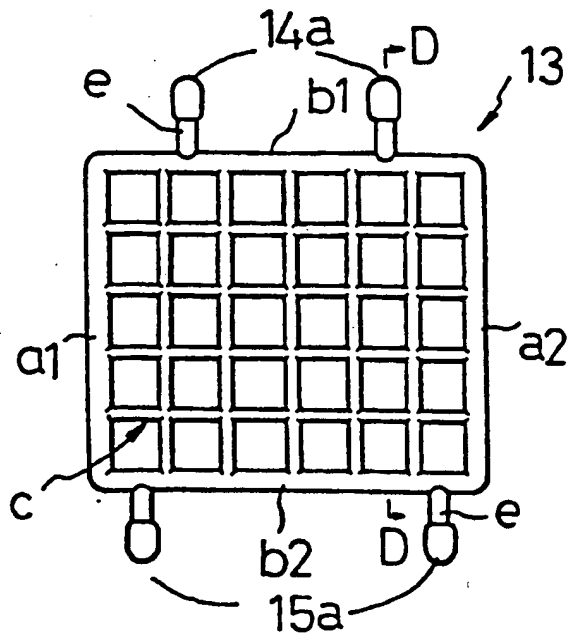
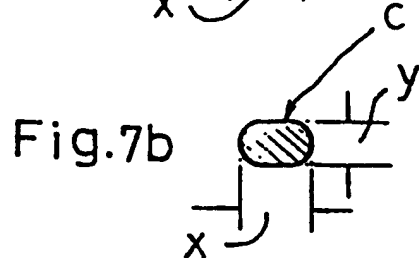
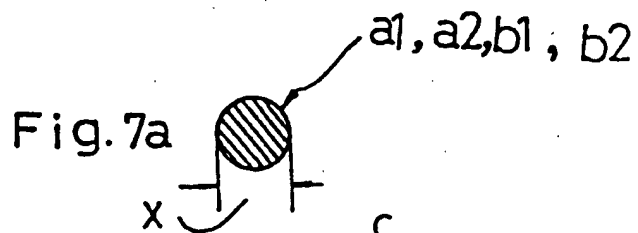
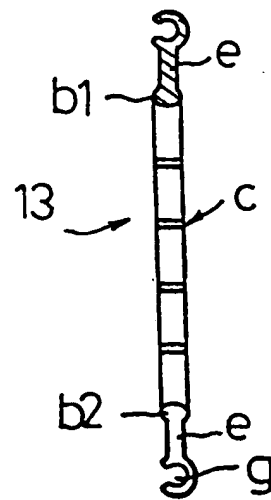


Fig.6b



SUBSTITUTE SHEET

Fig. 8a

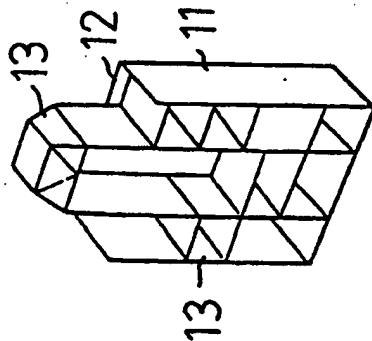


Fig. 8c

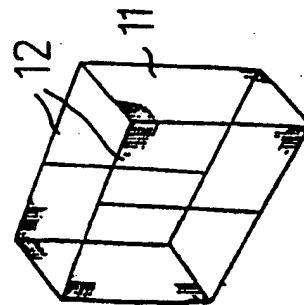


Fig. 8b

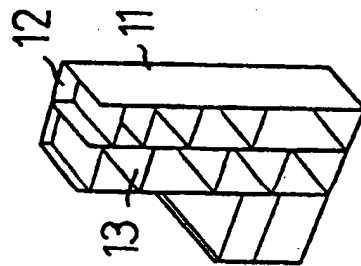


Fig. 8d



Fig. 8e

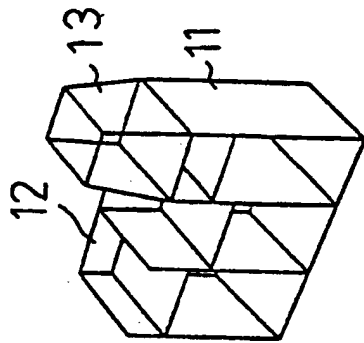


Fig. 8h

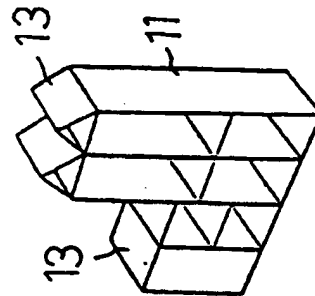


Fig. 8f

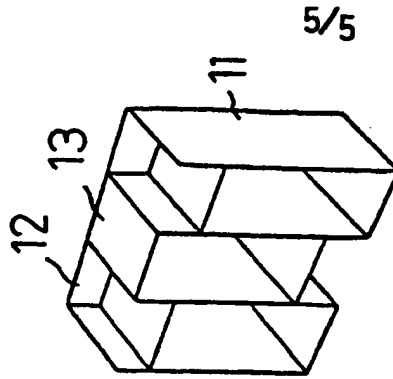
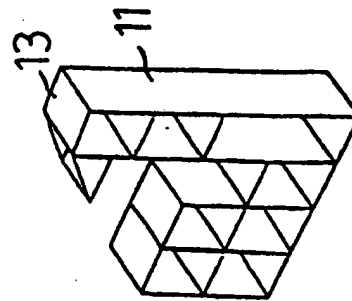


Fig. 8i



INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR 93/00024

A. CLASSIFICATION OF SUBJECT MATTER

IPC⁵: A 47 B 45/00; A 47 F 5/13

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC⁵: A 47 B 45/00, 47/00, 47/02, 47/04, 55/00, 55/02
A 47 F 5/00, 5/01, 5/13, 5/14; F 16 B 12/00, 12/12, 12/26

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPIL

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------|
| Y A | EP, A2, 0 134 639 (BISK), 20 March 1985 (20.03.85), page 1, lines 8-19; page 4, line 22 to page 6, line 6; fig. 1-3 | 1 4 |
| Y A | GB, A, 2 176 995 (CARVER), 14 January 1987 (14.01.87), page 1, lines 80-84, 104-108; fig. 1. | 1 3 |
| A | GB, A, 1 409 076 (ATELIERS REUNIS SOCIETE ANONYME), 08 October 1975 (08.10.75), page 1, lines 10-36, 59-73; page 2, lines 9-24, 99-108, 114-118; fig. 1,5,6. | 1 |
| A | US, A, 2 897 978 (BECKNER) 04 August 1959 (04.08.59), totality. | |

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to as oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"A" document member of the same patent family

Date of the actual completion of the international search

07 June 1993 (07.06.93)

Date of mailing of the international search report

28 June 1993 (28.06.93)

Name and mailing address of the ISA/ AT

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/KR 93/00024

| In Recherchenbericht angeführtes Patentdokument Patent document cited in search report Document de brevet cité dans le rapport de recherche | Datum der Veröffentlichung Publication date Date de publication | Mitglied(er) der Patentfamilie Patent family member(s) Membre(s) de la famille de brevets | Datum der Veröffentlichung Publication date Date de publication |
|--|--|--|--|
| EP A2 134639 | 20-03-85 | US A 4765495 | 23-08-88 |
| | | EP A3 134639 | 31-07-85 |
| | | JP A2 61033929 | 18-02-86 |
| | | JP B4 4068223 | 30-10-92 |
| GB A 2176995 | | GB A0 8517472 | 14-08-85 |
| | | GB A0 8616675 | 13-08-86 |
| | | GB A1 2176995 | 14-01-87 |
| | | GB B2 2176995 | 23-08-89 |
| GB A 1409076 | | keine - none - rien | |
| US A 289797B | | keine - none - rien | |